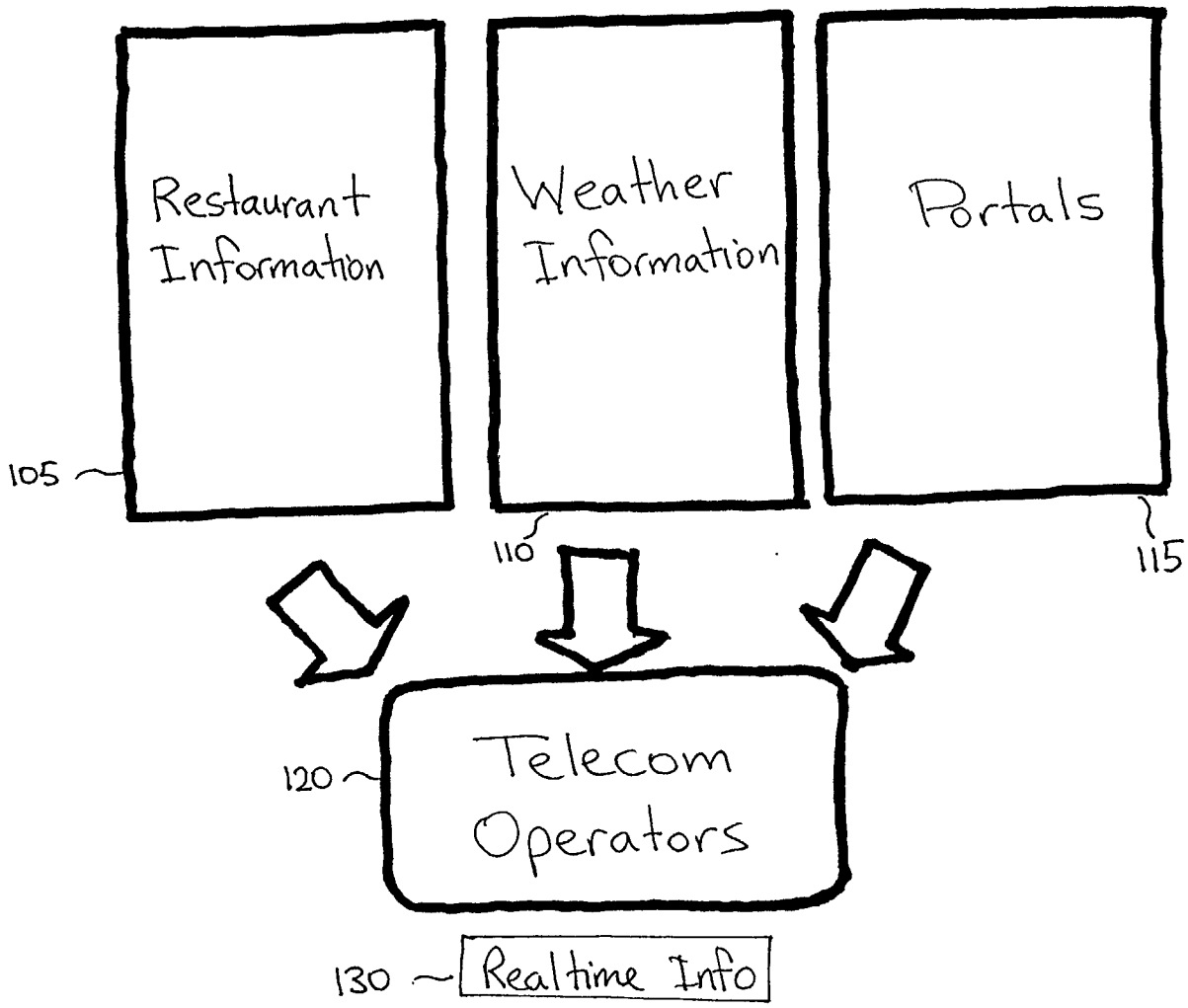
TOSHIBA 08555760

FIGURE 1



TOSOTU 09655760

FIGURE 2

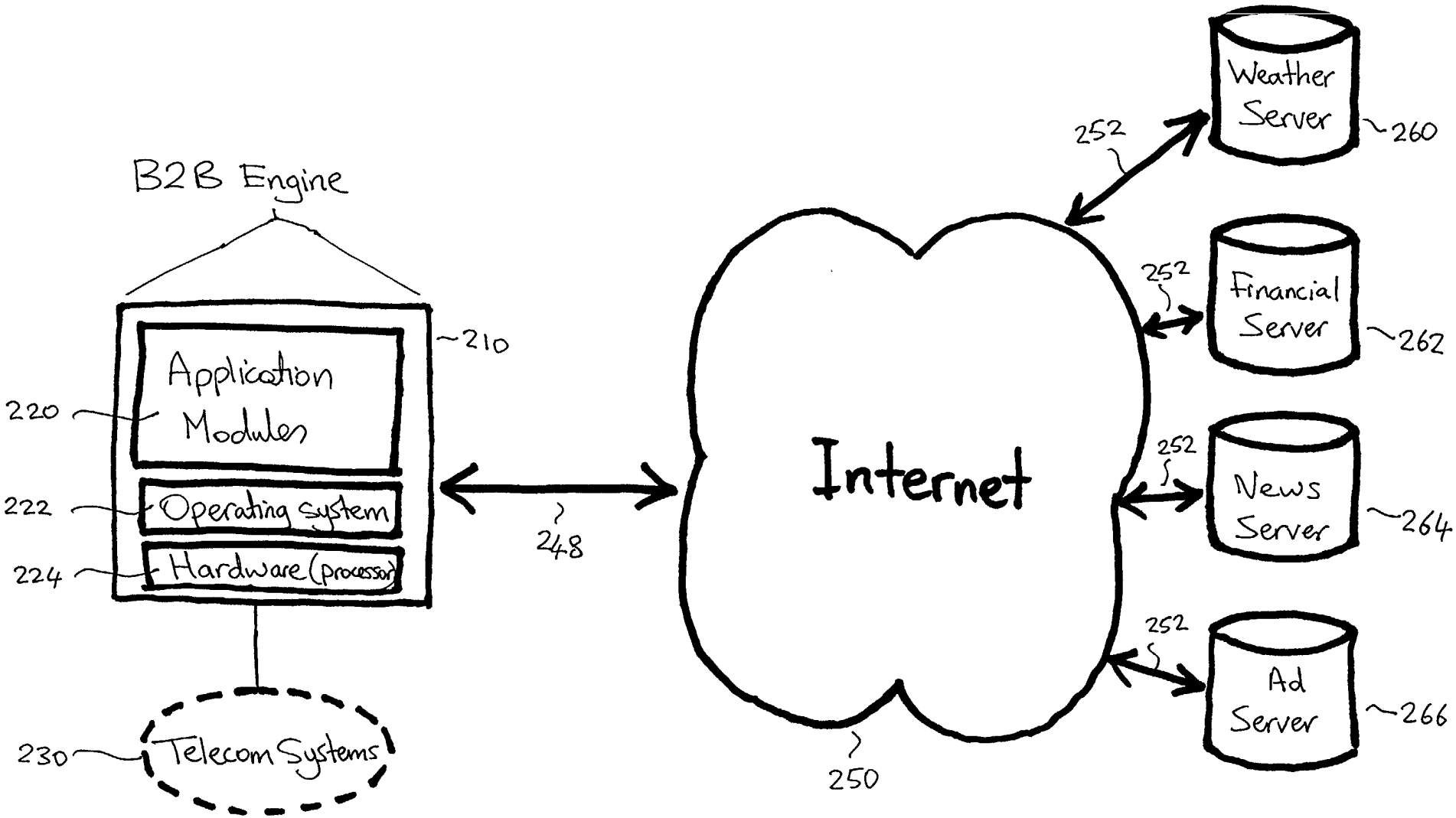


FIGURE 3

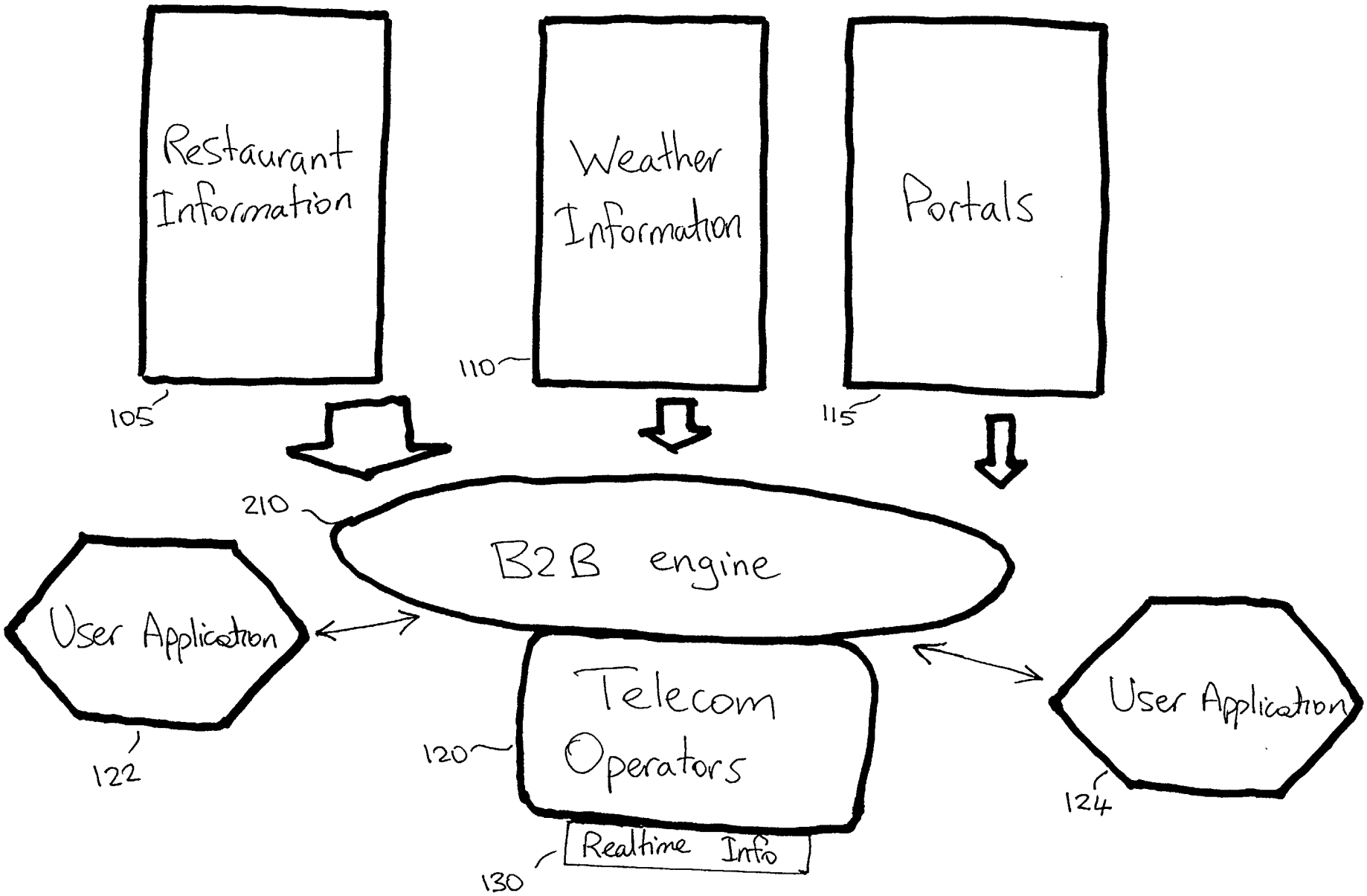

Restaurant Information
Weather Information
Portals
105
110
115
210
B2B engine
User Application
122
Telecom Operators
120
Realtime Info
130
User Application
124

FIGURE 4

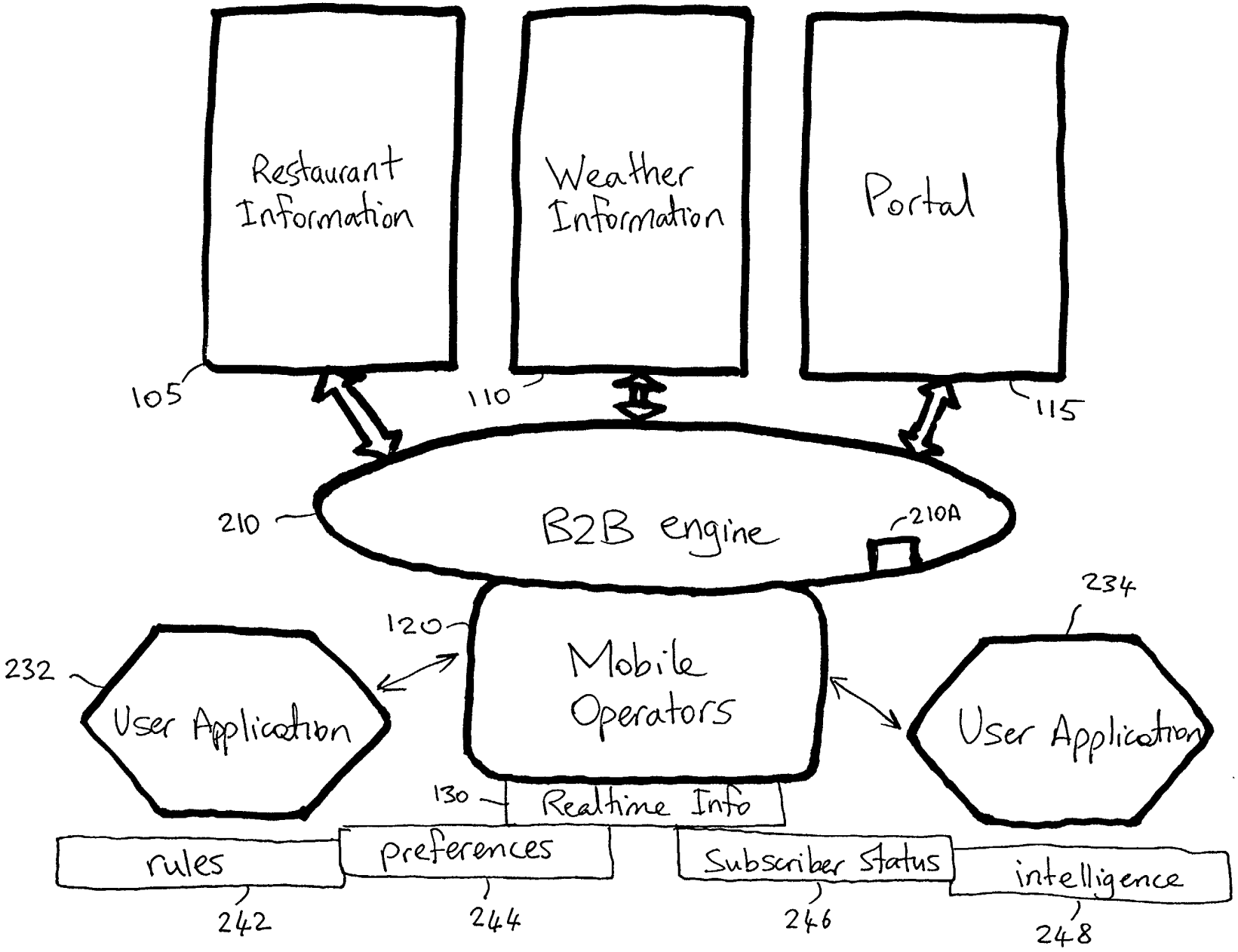

Restaurant Information
Weather Information
Portal
105
110
115
210
B2B engine
210A
120
Mobile Operators
234
232
User Application
User Application
130
Realtime Info
rules
preferences
Subscriber Status
intelligence
242
244
246
248

FIGURE 5

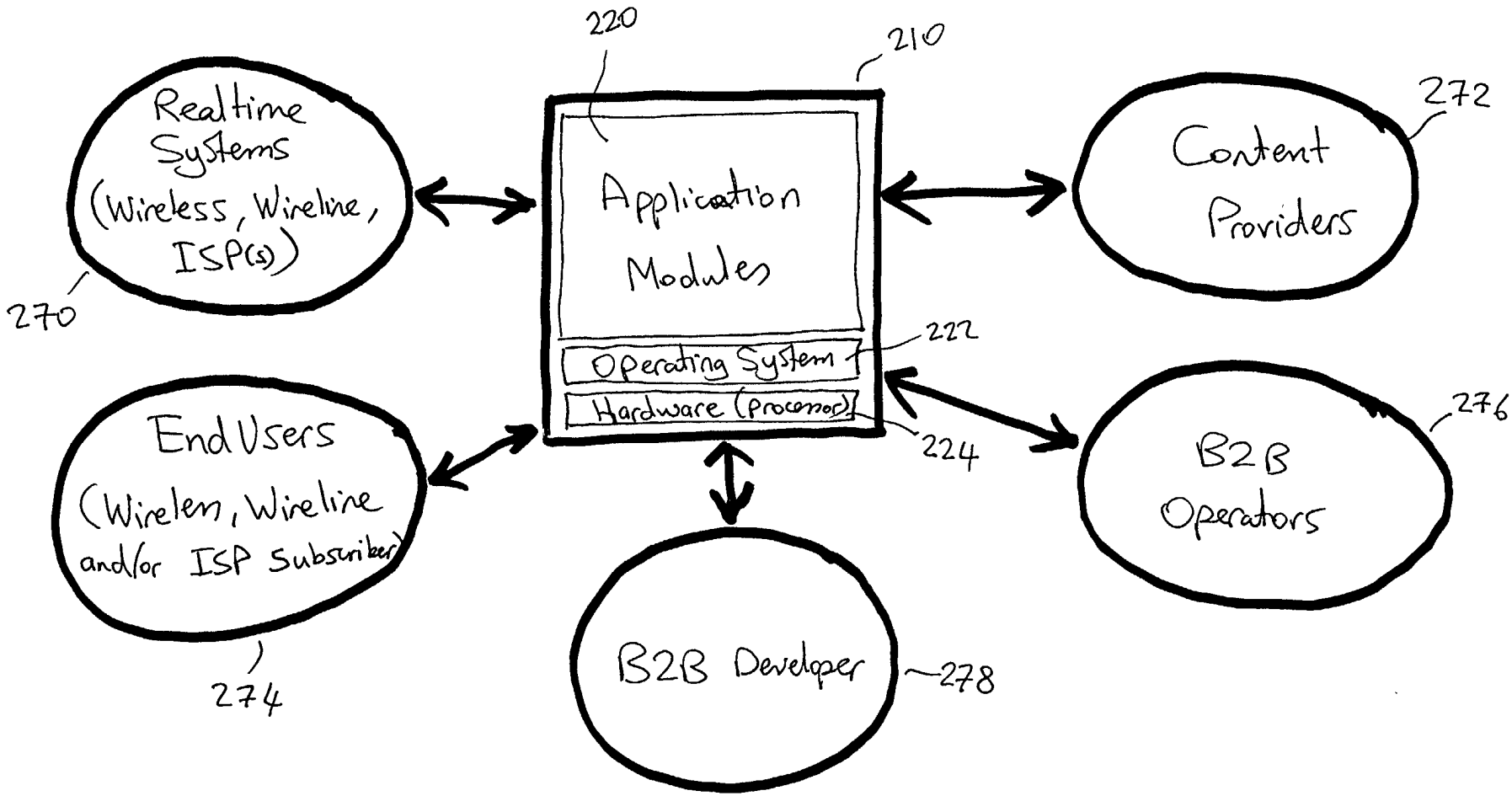

220
210
Realtime Systems (Wireless, Wireline, ISP(s))
270
Application Modules
Content Providers
272
Operating System
Hardware (Processor)
222
224
End Users (Wireless, Wireline and/or ISP Subscriber)
274
B2B Operators
276
B2B Developer
278

FIGURE 6

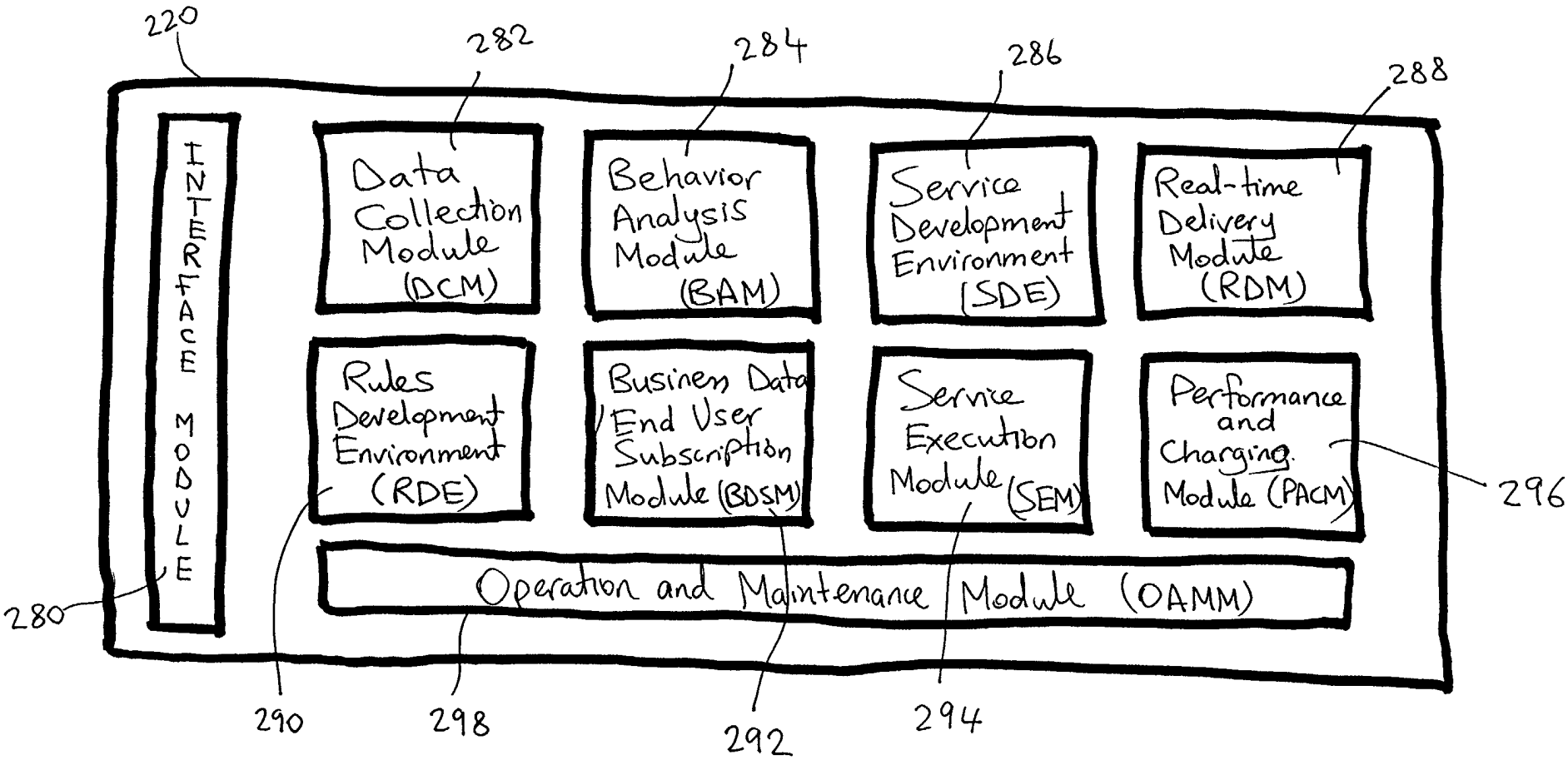

220
282
284
286
288
INTERFACE MODULE
Data Collection Module (DCM)
Behavior Analysis Module (BAM)
Service Development Environment (SDE)
Real-time Delivery Module (RDM)
Rules Development Environment (RDE)
Business Data / End User Subscription Module (BDSM)
Service Execution Module (SEM)
Performance and Charging Module (PACM)
296
Operation and Maintenance Module (OAMM)
280
290
298
292
294

FIGURE 7

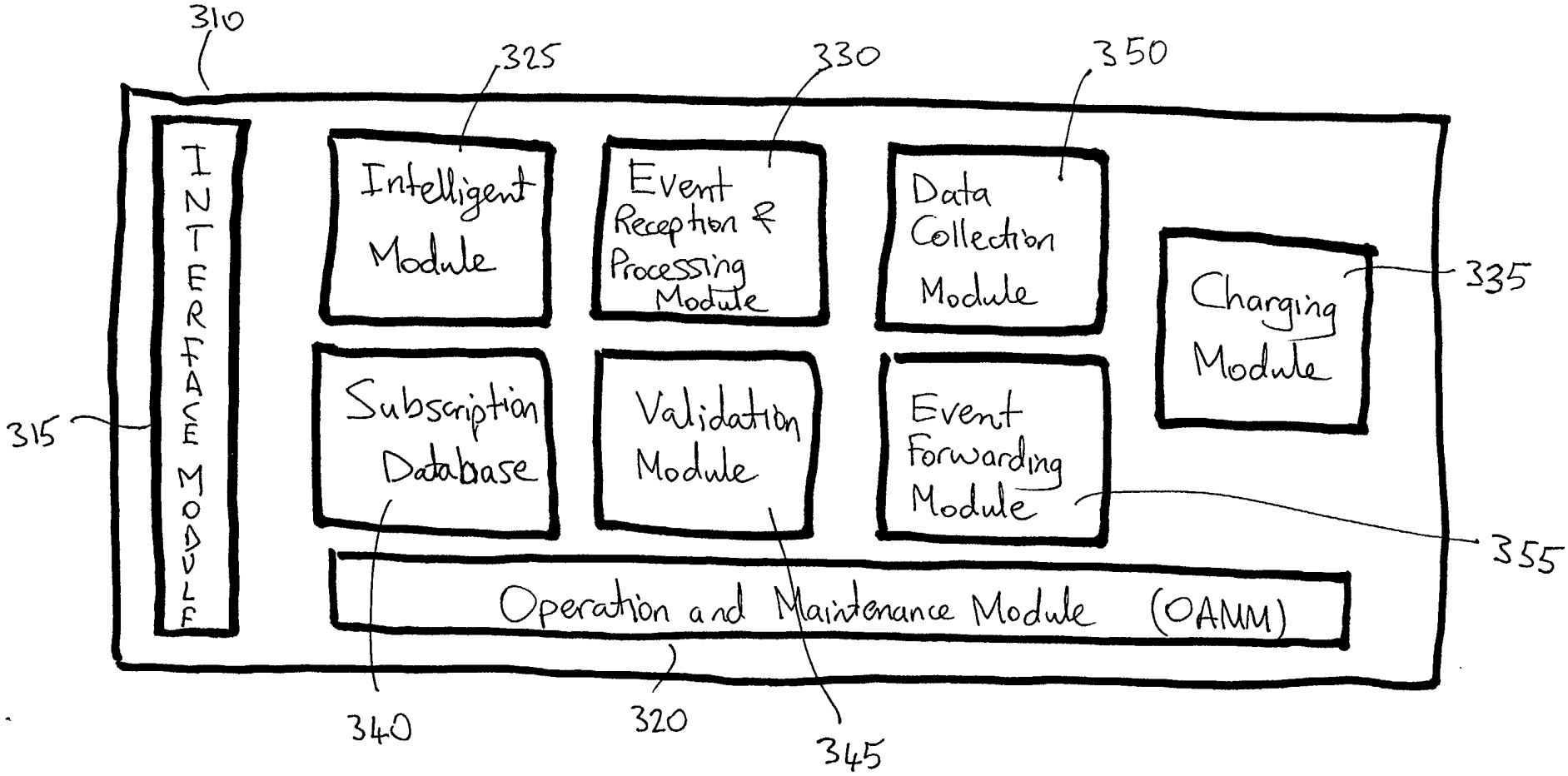

310
325
330
350
INTERFACE MODULE
Intelligent Module
Event Reception & Processing Module
Data Collection Module
Charging Module
335
315
Subscription Database
Validation Module
Event Forwarding Module
355
Operation and Maintenance Module (OAMM)
340
320
345

FIGURE 8

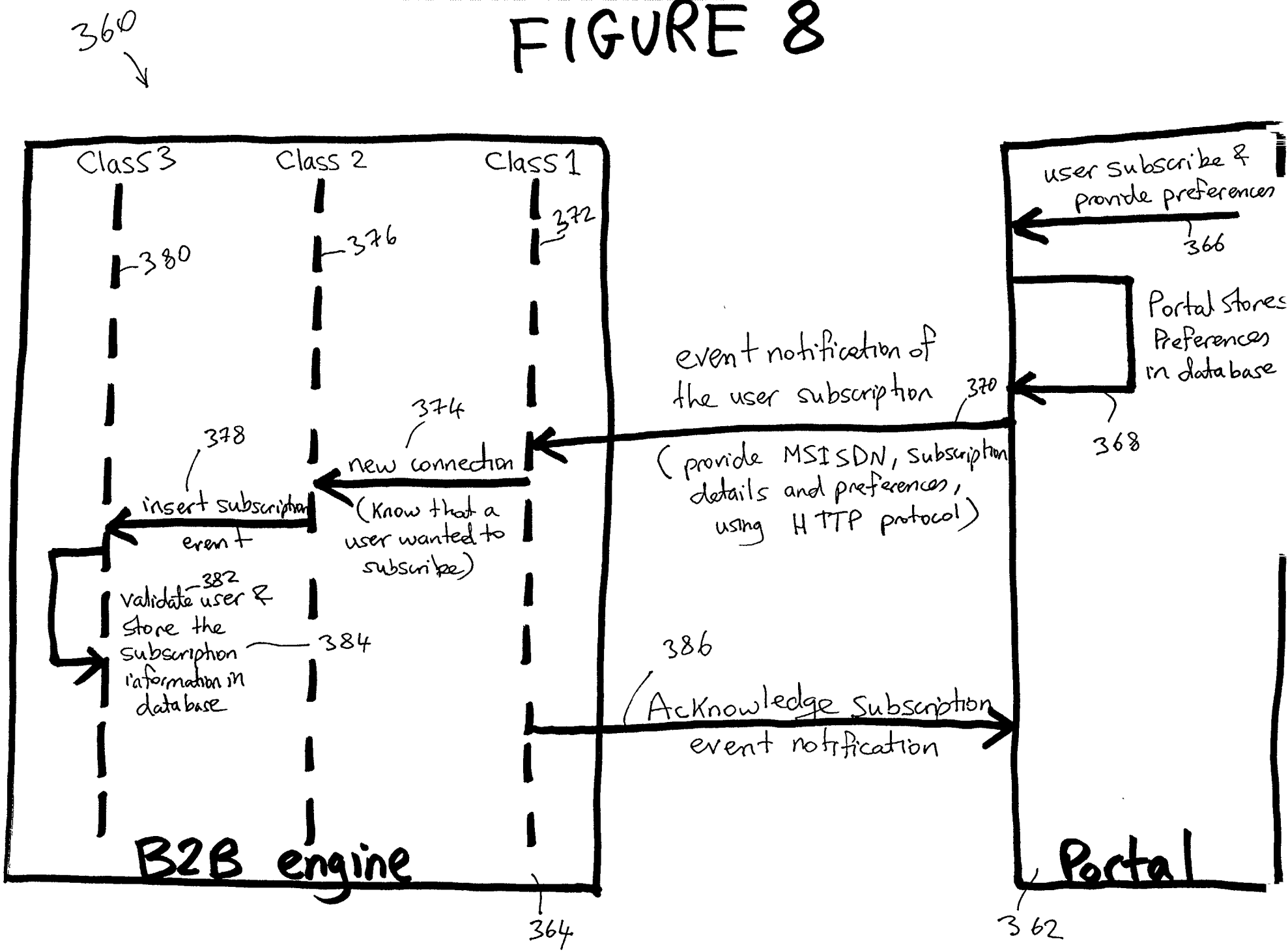

360
Class 3
Class 2
Class 1
380
376
372
user subscribe & provide preferences
366
Portal stores Preferences in database
368
event notification of the user subscription
370
(provide MSISDN, subscription details and preferences, using HTTP protocol)
374
new connection
(know that a user wanted to subscribe)
378
insert subscription event
382
validate user & store the subscription information in database
384
386
Acknowledge Subscription event notification
B2B engine
364
Portal
362

FIGURE 9

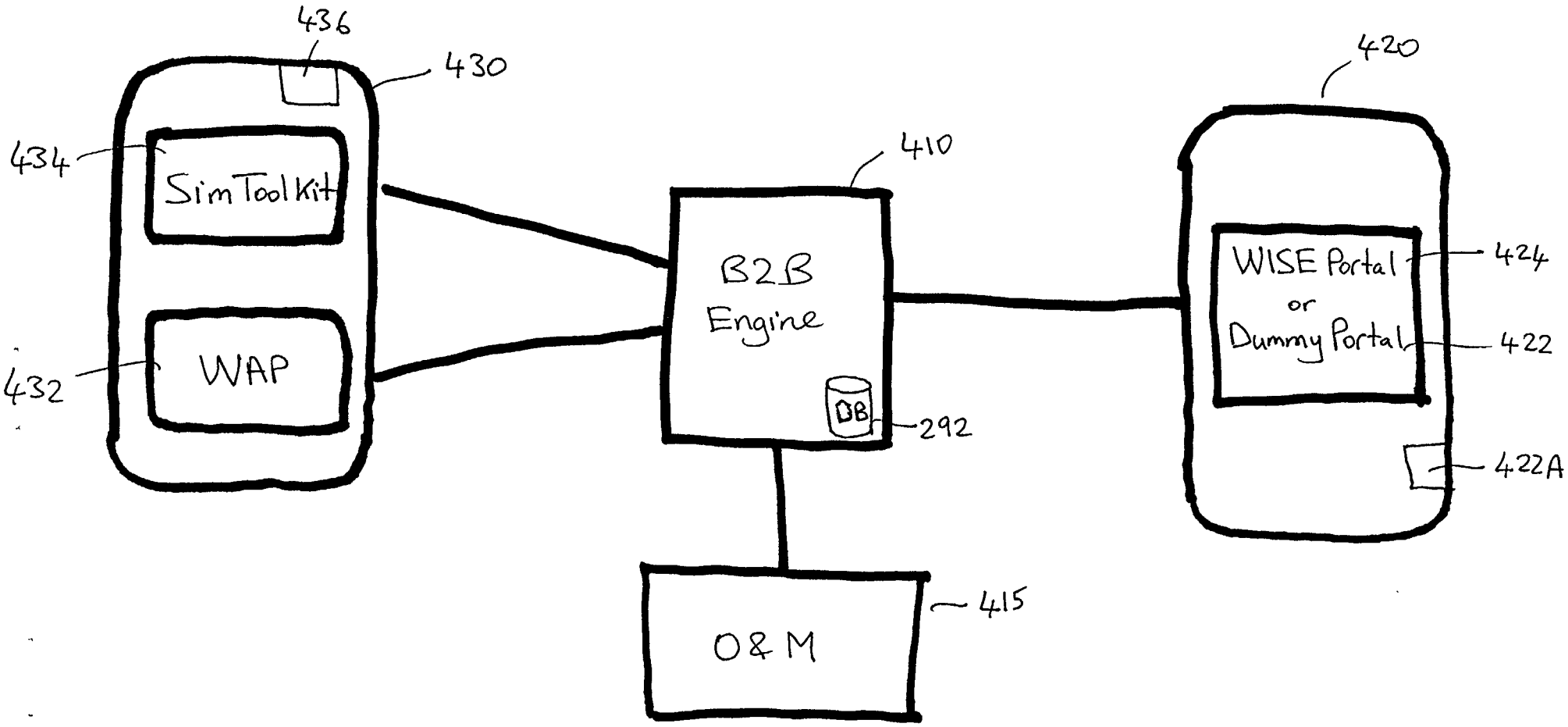

436
430
420
434
SimToolKit
410
B2B
Engine
WISE Portal
or
Dummy Portal
424
422
432
WAP
DB
292
422A
415
O&M

FIGURE 10

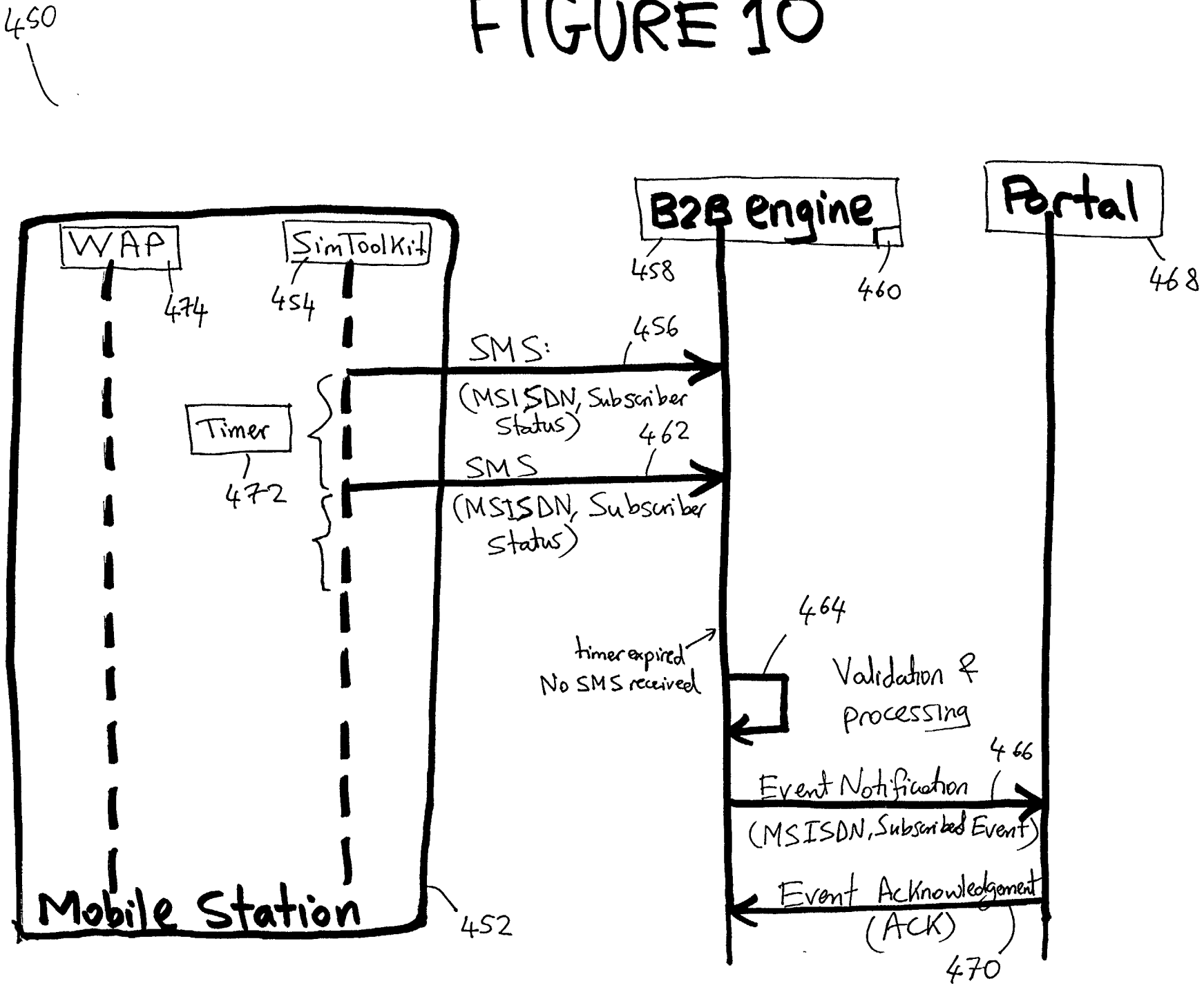

450
B2B engine
458
460
Portal
468
WAP
474
SimToolKit
454
Mobile Station
452
SMS:
(MSISDN, Subscriber Status)
456
Timer
472
SMS
(MSISDN, Subscriber Status)
462
timer expired
No SMS received
464
Validation & processing
Event Notification
(MSISDN, Subscribed Event)
466
Event Acknowledgement
(ACK)
470

FIGURE 11

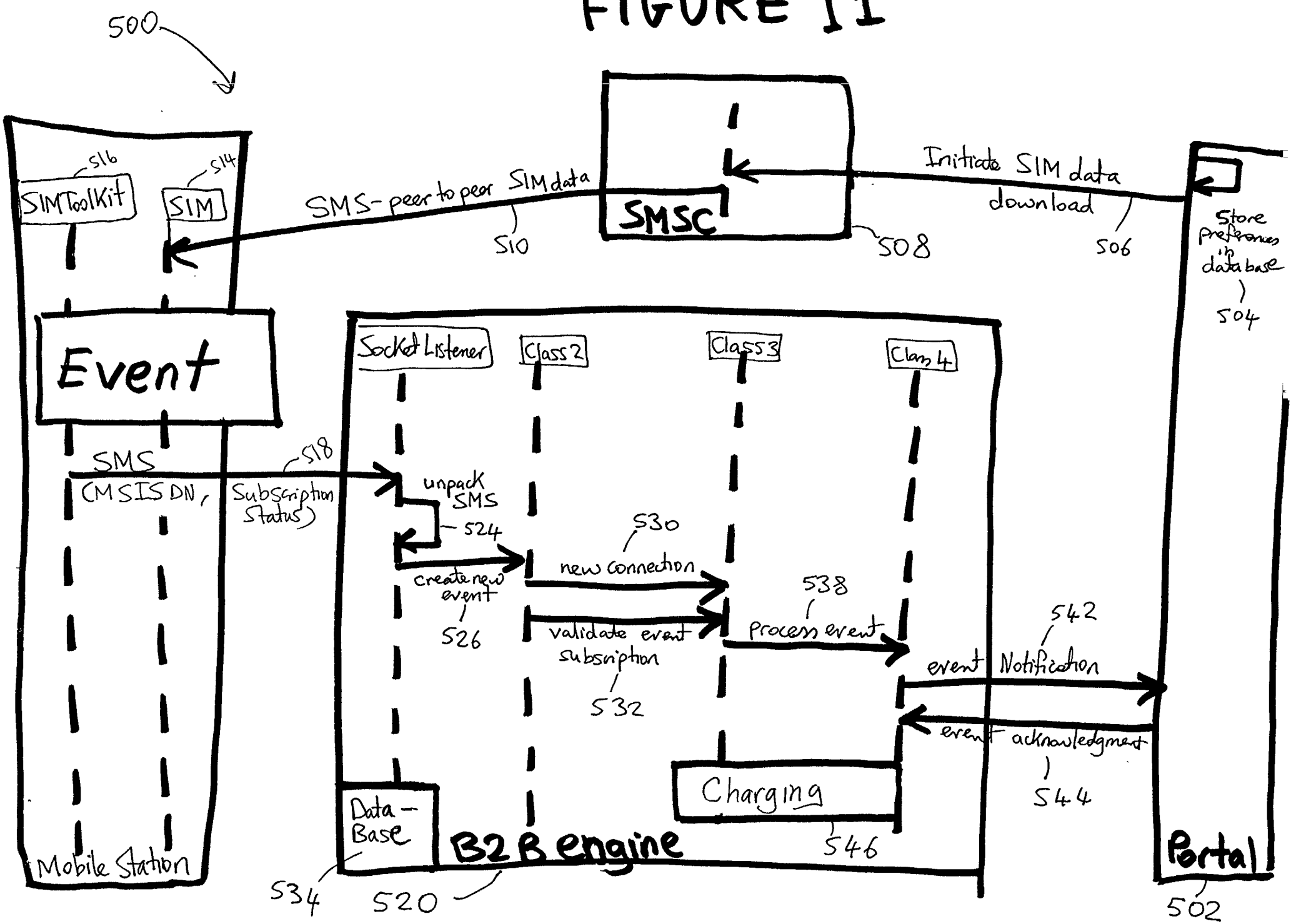

500
516
SIMToolKit
514
SIM
SMS-peer to peer SIM data
510
SMSC
508
Initiate SIM data download
506
Store preferences in data base
504
Event
SMS
(MSISDN, Subscription Status)
518
Socket Listener
Class 2
Class 3
Class 4
unpack SMS
524
530
new connection
create new event
526
538
validate event subscription
532
process event
542
event Notification
event acknowledgment
544
Charging
546
Data-Base
534
B2B engine
520
Mobile Station
Portal
502

FIGURE 12

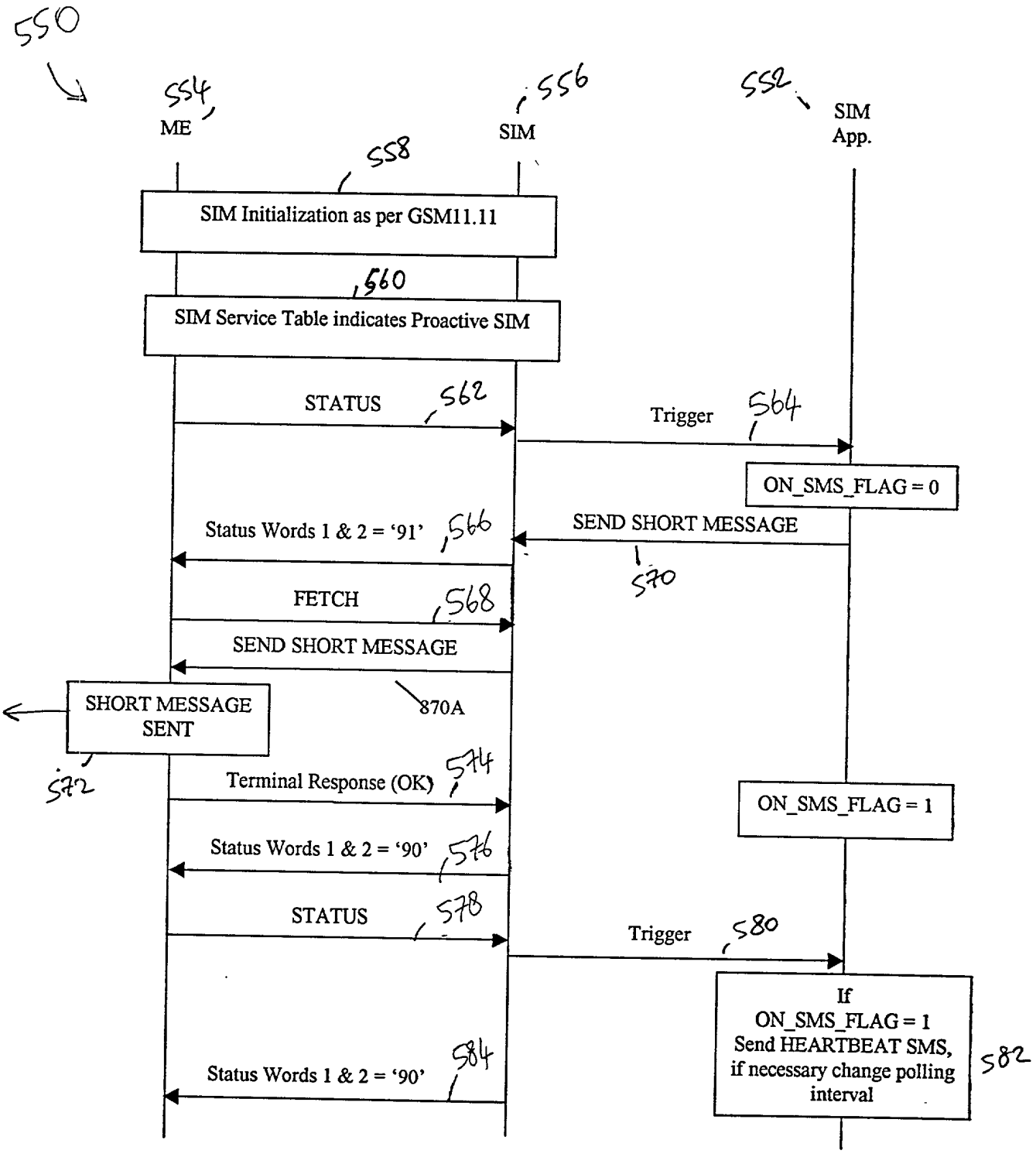

550
554
ME
556
SIM
552
SIM App.
558
SIM Initialization as per GSM11.11
560
SIM Service Table indicates Proactive SIM
STATUS
562
Trigger
564
ON_SMS_FLAG = 0
Status Words 1 & 2 = '91'
566
SEND SHORT MESSAGE
570
FETCH
568
SEND SHORT MESSAGE
870A
SHORT MESSAGE SENT
572
Terminal Response (OK)
574
ON_SMS_FLAG = 1
Status Words 1 & 2 = '90'
576
STATUS
578
Trigger
580
If ON_SMS_FLAG = 1 Send HEARTBEAT SMS, if necessary change polling interval
582
Status Words 1 & 2 = '90'
584

FIGURE 13

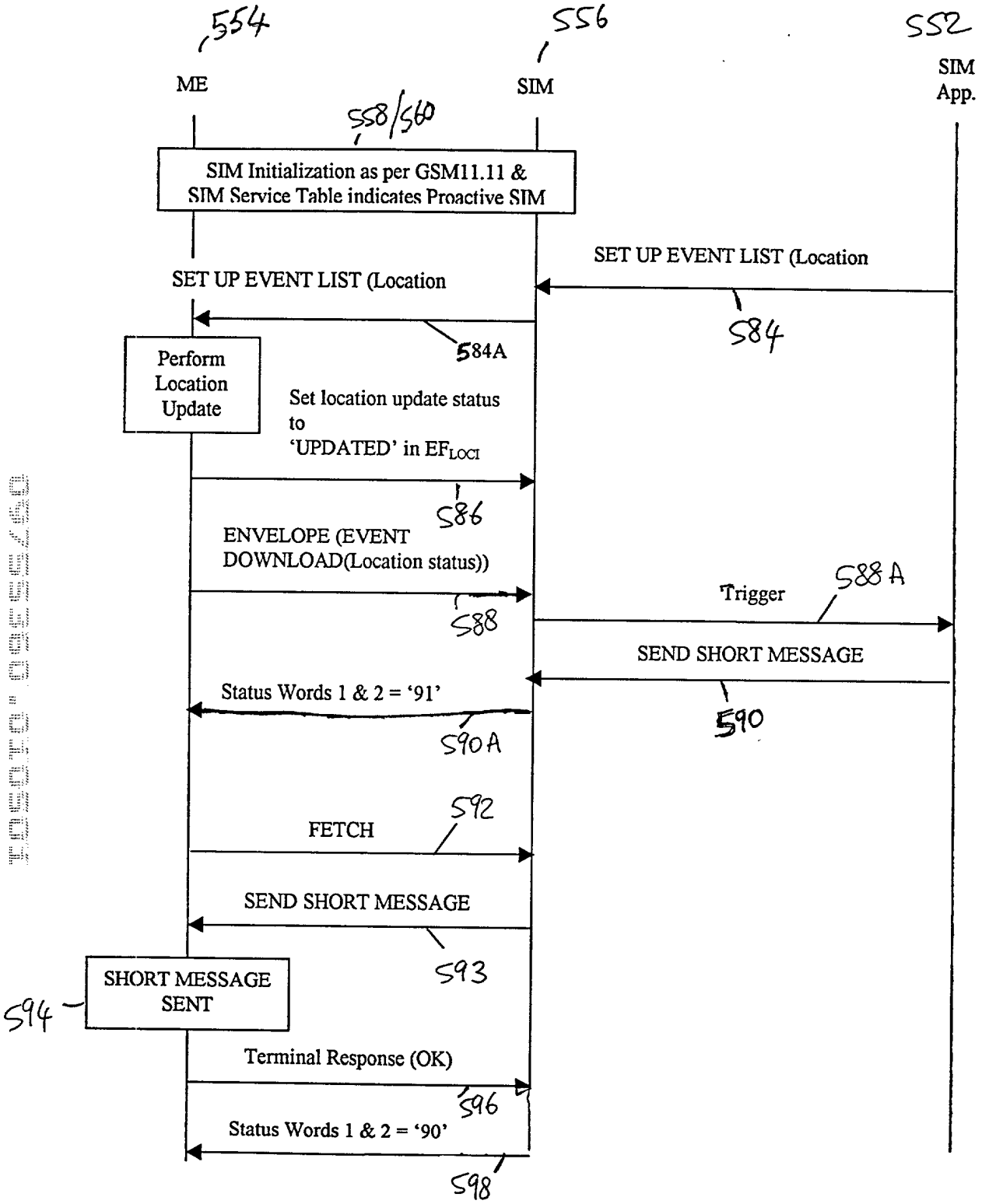

554
556
552
ME
SIM
SIM App.
558/560
SIM Initialization as per GSM11.11 & SIM Service Table indicates Proactive SIM
SET UP EVENT LIST (Location
SET UP EVENT LIST (Location
584
584A
Perform Location Update
Set location update status to 'UPDATED' in EF$_{LOCI}$
586
ENVELOPE (EVENT DOWNLOAD(Location status))
588
Trigger
588A
SEND SHORT MESSAGE
590
Status Words 1 & 2 = '91'
590A
FETCH
592
SEND SHORT MESSAGE
593
SHORT MESSAGE SENT
594
Terminal Response (OK)
596
Status Words 1 & 2 = '90'
598

FIGURE 14

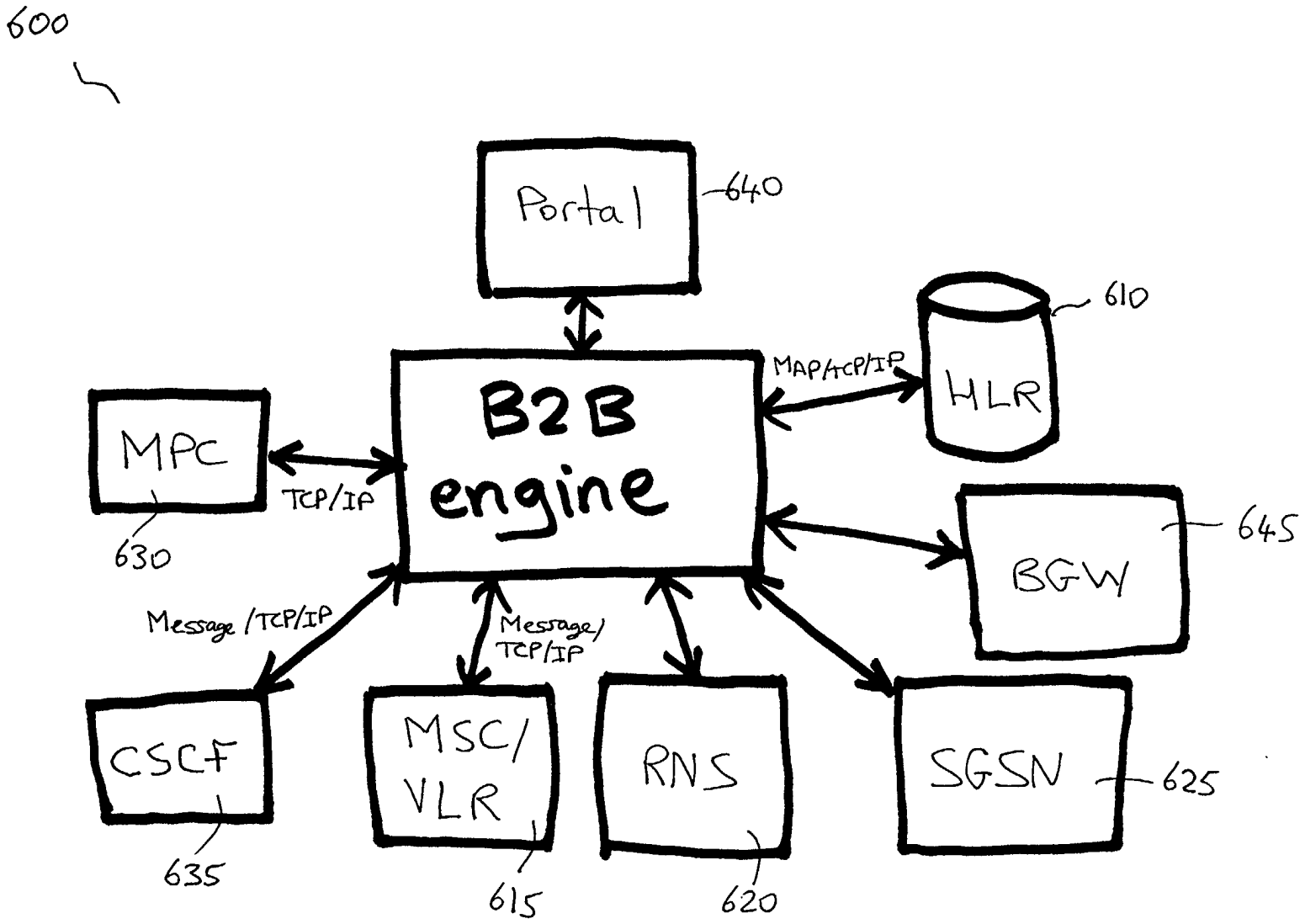

600
Portal
640
610
HLR
MAP/TCP/IP
B2B engine
MPC
TCP/IP
630
BGW
645
Message /TCP/IP
Message/ TCP/IP
CSCF
635
MSC/ VLR
615
RNS
620
SGSN
625

FIGURE 15

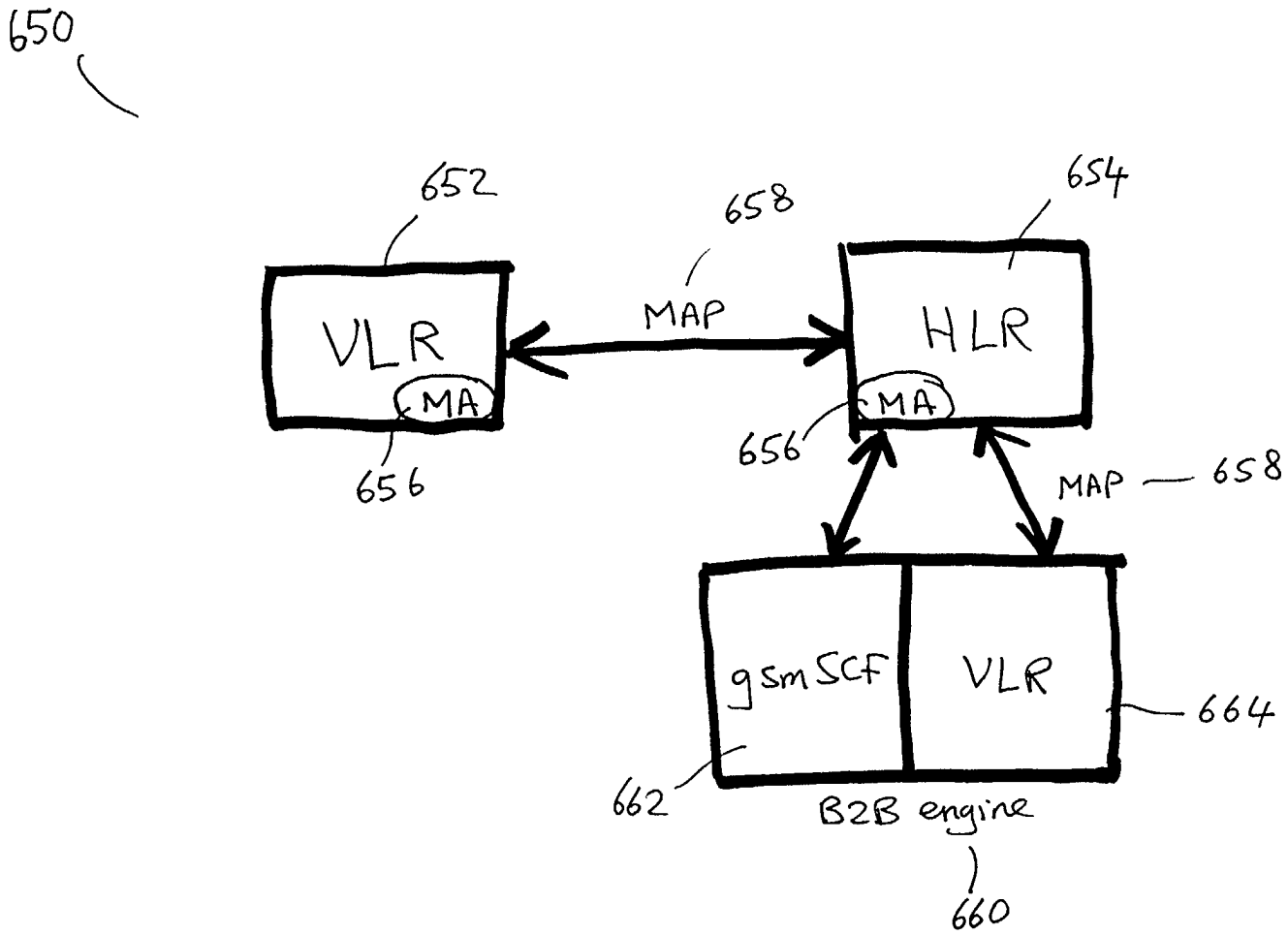

650
652
658
654
VLR
MAP
HLR
MA
MA
656
656
MAP
658
gsmSCF
VLR
664
662
B2B engine
660

FIGURE 16

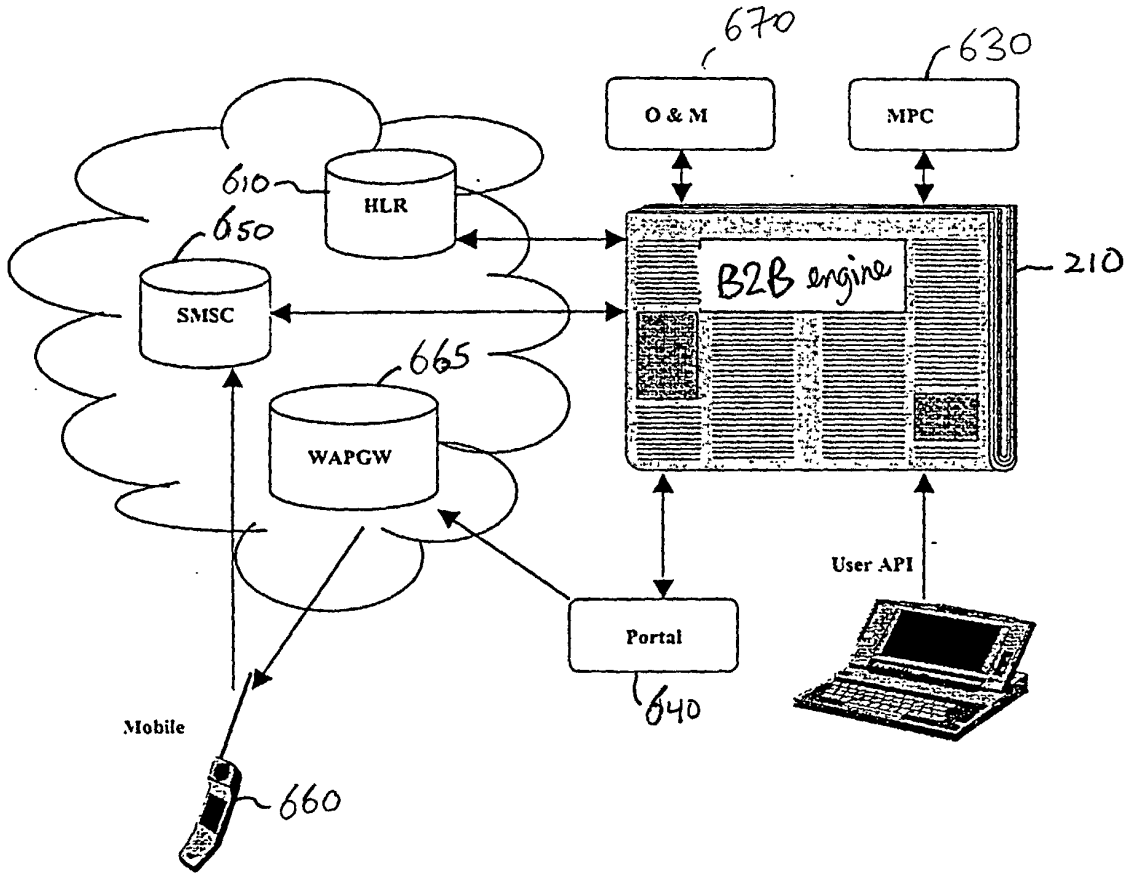

670
630
O & M
MPC
610
HLR
650
SMSC
B2B engine
210
665
WAPGW
User API
Portal
640
Mobile
660

FIGURE 17

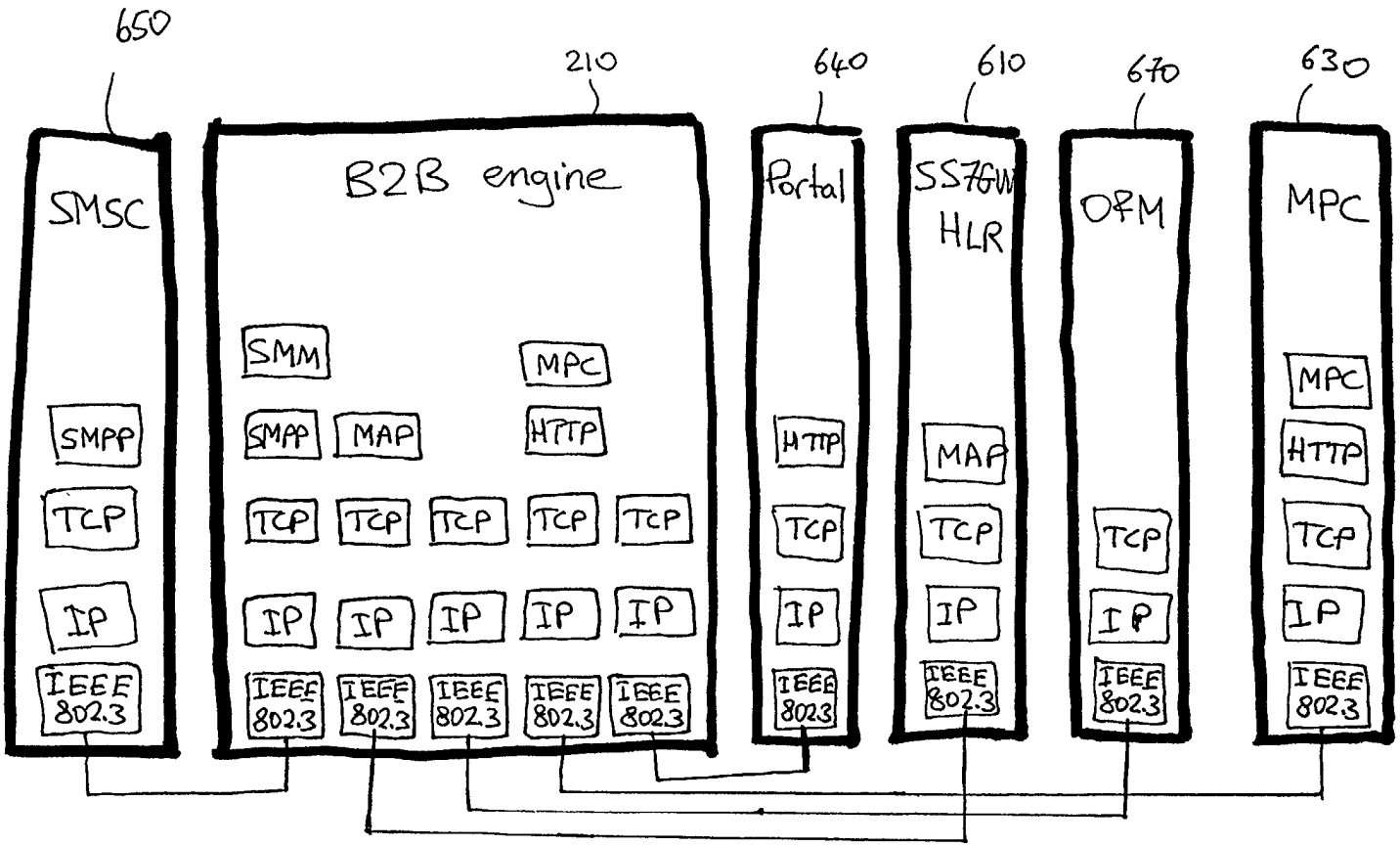
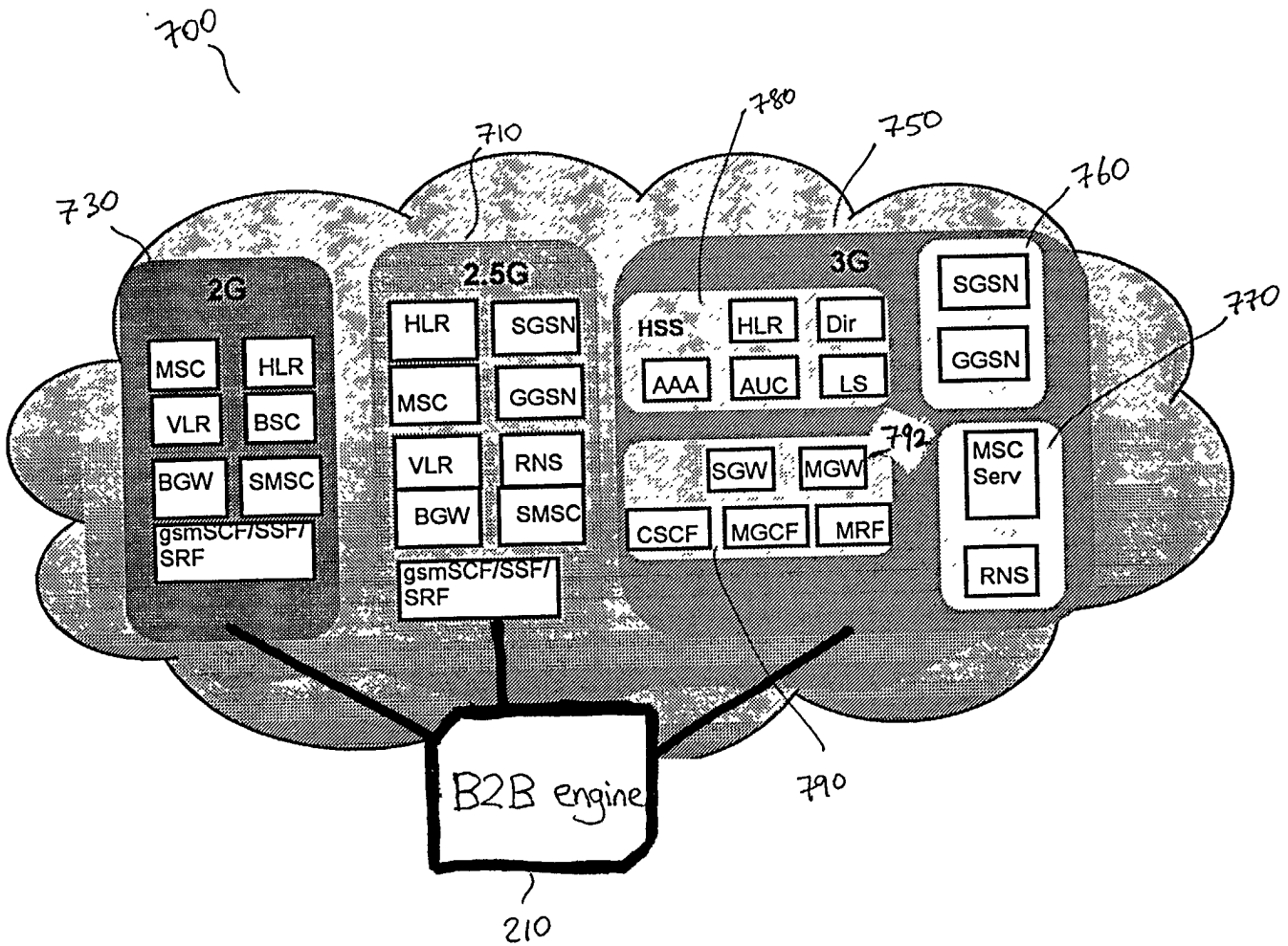

650
210
640
610
670
630
SMSC
B2B engine
Portal
SS7GW
HLR
OAM
MPC
SMM
MPC
SMPP
SMPP
MAP
HTTP
HTTP
MAP
MPC
HTTP
TCP
TCP
TCP
TCP
TCP
TCP
TCP
TCP
TCP
TCP
IP
IP
IP
IP
IP
IP
IP
IP
IP
IP
IEEE 802.3
IEEE 802.3
IEEE 802.3
IEEE 802.3
IEEE 802.3
IEEE 802.3
IEEE 802.3
IEEE 802.3
IEEE 802.3
IEEE 802.3

FIGURE 18


700
710
780
750
760
730
770
2G
2.5G
3G
MSC
HLR
VLR
BSC
BGW
SMSC
gsmSCF/SSF/
SRF
HLR
SGSN
MSC
GGSN
VLR
RNS
BGW
SMSC
gsmSCF/SSF/
SRF
HSS
HLR
Dir
AAA
AUC
LS
SGSN
GGSN
792
SGW
MGW
CSCF
MGCF
MRF
MSC
Serv
RNS
B2B engine
790
210